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ABSTRACT

This paper reviews studies on classroom talk and on mother-child interaction: it compares the latter with classroom talk and speculates on what language in the classroom could be. The discussion of language in the classroom revolves around: (1) the speech situation, that is, a situation organized in terms of some nonverbal activity; (2) the speech event, that is, one directly governed by rules or norms for the use of speech; and (3) particular speech acts. The analysis of discourse at home finds the closest similarity between classroom and home in language games with infants and picture-book reading. Studies on these activities are reviewed and related to Vygotsky's concept of the "zone of proximal development." The examples of speech in the home are discussed in terms of their relationship to later speech development. The research reviewed in the previous sections is applied to language in the classroom with emphasis on the help children get in three activities, namely, answering teacher questions, participating in typical classroom-lesson discourse structure, and other discourse forms.
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PEEKABOO AS AN INSTRUCTIONAL MODEL:

DISCOURSE DEVELOPMENT AT HOME AND AT SCHOOL

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I have spent my professional life going back and forth between the language worlds of the child at home and the child at school. For several years, I participated actively in research on early language acquisition, and many of my students continue in that area. Recently, my own work has returned to elementary school classrooms where I started out. Questions about language in education were on my mind when I went back to graduate school at Harvard in 1961, and my primary professional commitment is to understand the complexities of how language is used, and could be used, in schools. Because I try to live in both worlds, the occasion of addressing the Stanford Child Language Research Forum seemed an ideal opportunity to explore relationships between the two research enterprises that are focused separately on the language of home and of school, and to ask if a comparison between them yields new insights about either one.

The past five years have seen a marked increase in descriptions of classroom talk that are informed by theory and methodology from the ethnography of speaking and sociolinguistics. I start with examples of this work, then look back at mother-child interaction studies for comparison, and return at the end to speculations about what language in the classroom could be.

Discourse in the Classroom

Recent ethnographic studies of language in the classroom--sometimes called microethnographies because the unit is a classroom rather than a culture--work from the perspective described by Frake:

A description of a culture derives from an ethnographer's observations of the stream of activities performed by the people he is studying. As a first step toward producing an ethnographic statement, the investigator must segment and classify the events of this behavior stream so that he can say, for example of two successive events, that they are repetitions of the "samē" activity. If the ethnographer claims his people do X three times a week, verification of his statement requires not simply counting occurrences of X but also assessing the criteria for distinguishing X from all the other things people do during the week and for deciding that all the different events construed as instances of X in fact represent the "same" activity. Information about what is the "same" and what is "different" can only come from the interpretation of events made by the people being studied (1972, p. 110).

Because of the importance of language to the goals of schools, one very useful aim of this kind of educational research would be a typology of the kinds of talking that occur in classrooms, and then a typology of classrooms according to the types and frequencies of talking that occur. Such a cross-classroom comparison --a micro version of cross-cultural ethnographies of communication--would surely be more informative than the usual classification of classrooms on global terms like "structured" and "open". We are a long way from such a typology, but a start has been made in segmenting the complex stream of behaviors, and analyzing the structure of some of the segments. (See Erickson & Shultz, 1977, for a methodological discussion.)

In thinking about the kinds of talk that occur in classrooms, it seems useful to preserve Hymes's distinction between a speech situation and a speech event, at least as ends of a continuum (Hymes, 1972; Bauman & Sherzer, 1975). A speech situation contains speech, but it is organized in terms of some nonverbal activity. Watching a football game would be one example. There is talk among the spectators; there will be regularities in that talk as the spectators assemble and find their seats, and the game begins. But the situation is not constituted in terms of rules for speaking. A speech event, by contrast, is "directly governed by rules or norms for the use of speech" (Hymes, 1972, p. 56). Among classroom contexts, a tic-tac-toe game is a speech situation, and teacher-led lessons are one kind of speech event.

Complementing analyses of situations and events are analyses--more sociolinguistic than ethnographic--of particular speech acts, such as requests for clarification. The relationship between these two levels of analysis presents important problems. One can't describe the structure of an event without deciding what each slot in the event structure can be filled with--decisions about "same" and "different" at another level. Just as to say that "S - NP + VP" assumes decisions about what counts as an NP and a VP, so to say that "Instructional sequence [in a lesson] - Initiation + Reply + Evaluation" (Mehan, 1979, p. 75) assumes decisions about membership in those categories. Conversely, though perhaps less obviously, decisions about speech act assignment may depend on where in a speech event structure an utterance appears. (Mishler [in press] discusses this problem in an analysis of children's bargaining sequences.) Even more fundamental and pervasive are questions about the level of interpretation of intentions that controls sequencing (Labov & Fanshel, 1977). I do not want to enter these controversies here, and only use the terms situation, event and act as labels for types of recent classroom research.

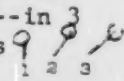
Speech Situation: The Tic-Tac-Toe Game

Shultz (in press) describes one speech situation, a tic-tac-toe game, in a Kindergarten-first grade class in a Boston suburb. Activities in this classroom alternated between those in which the whole group was assembled on the rug for some joint endeavor--called "circles"--and those

in which the children were dispersed around the room performing a variety of tasks--called "small group periods". One of the tokens of the small group situation is called "workperiod", and one of its tokens (of which many may occur simultaneously and sequentially as children move from one activity to another) is a tic-tac-toe game. This speech situation is structured around the game--here played by the teacher and three children, one of whom, C_2 , is a Kindergartner who is being taught how to play. What Shultz discovered is that the three phases of the game situation--set-up, serious play, and wind-up--have consequences for the talk that does and does not occur. These phases are marked by changes in the teacher's posture, by the frequency and success of attempted interruptions of the game by children who are not players, and by what topics can "get the floor":

Table 1

Behaviors in Three Phases of a Tic-Tac-Toe Game
(based on Shultz, in press)

	Set-up (161 seconds)	Serious Play (184 seconds)	Wind-up (33 seconds)
	C_1 asks C_2 to play until beg. of game	from 1st move of game to teacher's statement that no one will win	from T's state- ment until C_2 sent off to take test
Teacher's position while seated--in 3 possibilities 	all 3	always leaning in (2 or 3); never straight up	all 3
Successful inter- reptions by outsiders/ attempts	7/7	0/2	3/3
Topics permitted	C_1 's comment to T: <u>I saw Kevin's</u> <u>father today,</u> responded to even though not game- related	C_2 's comment to T: <u>I'm gonna tell my</u> <u>Mommy</u> again, also unrelated to game, ignored	

The teacher's posture, always leaning in during "serious play", may be a significant "contextualization cue" (Gumperz, 1976) for the children, telling them nonverbally "that she was very deeply engrossed in what she was doing and was therefore not available to be interrupted" (Shultz, in press). Note particularly that a child's comment about a non-game topic--actually a non-school topic--is responded to by the teacher during the set-up phase, but a similar comment in the serious play phase is ignored. The fact that the Kindergarten child, C_2 attempted such a conversation at that time is seen by observers and the teacher as evidence that she is not yet a competent member of this classroom community.

Speech event: the lesson

Some segments of classroom life are organized for and by talk alone. By far the most common focus for classroom interaction research is the lesson. Focus on lessons may have been initially influenced by their greater audibility to human observers or overhead microphones; during lessons teachers and children talk up, and they talk (pretty much) one at a time. Without wireless microphones, other speech situations like the tic-tac-toe game are as hard to overhear as talk at restaurant tables. But attention to lessons may also be justified by their status as the focal instance, the enactment of the central tendency, of the larger category of classroom talk, especially in the density of known-answer test questions and teacher evaluations of student replies. The most detailed and formalized analysis of classroom lessons is Mehan's (1979) book-length description of nine₂ lessons in a multi-ethnic, inner-city primary classroom in San Diego.

The lesson, like the tic-tac-toe game, has three phases: opening, the instructional core, and closing. During the opening and closing phases, the teacher issues directives, such as "Alberto, turn around so you can see the blackboard"; and informatives, such as "The people who haven't had a turn and would like to may do it tomorrow." In the instructional core, three-part sequences of teacher initiation, student reply and teacher evaluation are organized into what Mehan calls topically-related sets. Here is one set from the "Namecards" lesson, conducted on the fourth day of the first week of school in September.

Table 2
A Representative Example of a Topically-Related Set
(From Mehan, 1979, p. 69)

Initiation	Reply	Evaluation
4.9 T: Who knows whose namecard this is? (holds up namecard)	P: Mine. C: (raises hand)	T: Ah, if you see, if it's your namecard don't give the secret away if you, if ...
4.10 T: Let's see, I'll just take some of the people who are here. Um, if it's your name- card, don't give away the secret. Whose namecard, who could tell us whose namecard this is? (holds card up)	C: (raises hand)	

4:11	T: Carolyn.	C: Patricia.	
4:12	T: Can you point to Patricia?	C: (points to Patricia)	T: That's right.
4:13:	T: Is this your namecard?	P: (nods yes)	

According to Mehan, the beginning of each topically-related set is signalled by a combination of kinesic, verbal and paralinguistic behavior. The teacher physically orients toward the instructional materials to be used, in this case a namecard held up in front of the class. There is a closed set of markers that appear nowhere else in the lessons, including um, now, let's see, and last of all. And the cadence of the teacher's voice quickens as the set begins. Each set contains a basic sequence; sometimes there are conditional sequences as well. In the Namecards lesson, the basic sequence is the identification of one student's name on a namecard. With some cards, more frequently near the beginning of the lesson, the student who read the card is asked to identify the actual student or explain how (s)he knew the answer. The teacher then confirms the reading of the name with its owner. The set closes in ways complementary to the opening: the teacher lowers the material, marks the end with a finite set of markers like "That's right," often with the correct reply repeated, and the cadence slows with these words (paraphrased from Mehan, 1979, pp. 65-70).

A further aspect of the lesson structure is how each teacher initiation functions to allocate turns at speaking. Mehan identified three turn-allocation procedures that accounted for 80% of the 480 initiations in all nine lessons:

- Invitations to bid: "Who knows..." or "Who could tell us" as in 4:9 and 4:10 above;
- Individual nominations: a particular respondent is named or identified by gaze and pronoun as in 4:11, 4:12, and 4:13 above;
- Invitation to reply: later in the Namecards lesson, "And last of all, anybody, whose name is this?" to which anyone may answer, alone or in chorus.

Various types of formal statements of rules for speaking have been attempted. Mehan formalizes the lesson structure into a set of rewrite rules (p.75) and formalizes the possible combinations of normal forms and sanctioned violations of the turn-allocation procedures in a set of flow charts (pp. 104-5). The purpose of such formal statements was stated by Hymes:

When prose descriptions of events have been so restated, there has been a considerable gain in understanding of structure; or, one might say, a considerable clarification of what one understood to be the structure has been demanded. The form of the events is disengaged, as it were, from the verbal foliage obligatory in prose sentences, and can be more readily seen. In order to compare events within a society, and across societies, some concise and standard formats are needed. Comparison cannot depend upon memorization or shuffling of prose paragraphs vastly different in verbal style. And it is through some form of formal statement that one can commit oneself to a precise claim as to what it is a member of society knows in knowing how to participate in a speech act. (1972, p.66, emphases added--CBC.)

Hymes's last sentence gets to the heart of one purpose of this set of microethnographic studies. Just as a description of language (a grammar) asserts hypotheses about what the speaker of a language must learn, so a description of a lesson asserts hypotheses about what children must learn in order to participate fully in classroom talk, and be judged as interactionally, as well as academically, competent students.

Also analogous to analyses of language learning is the concept of interference between what could be called first and second discourse development: interference between what children have learned about appropriate ways of talking at home and the interactional demands of school. A model for such analyses has been Philips' (1972) research on the Warm Springs Reservation.

A recent analysis of interference is Michaels and Cook-Gumperz's (1979) study of the narratives of personal experience offered by white and Black first-grade children during sharing time, a common speech event in kindergarten and primary classrooms. All the children use a special and highly marked intonation contour, and formulaic beginnings such as "Yesterday" (even when the topic in fact happened last night or last year). All the narratives differ from usual intra-conversational narratives in several ways: the teacher holds the floor for the speaker; the narrator does not have to tie the story to previous discourse topics; and the teacher actively collaborates by interjecting questions, comments and reactions. The interference is produced by a mismatch between the narrative style of some of the children, often the Black children, and the model implicit in the teacher's collaborative efforts. Her collaboration fits and sometimes even enhances what Michaels and Cook-Gumperz call a "topic-centered" style, but not a differently structured "topic-chaining" style. Here are examples of each, retaining the division into lines but not the transcriptions of prosodic and paralinguistic features of the original:

Table 3

Two Styles of Sharing Time Narratives
(from Michaels & Cook-Gumperz, 1979, pp. 8-10)

<u>topic-centered</u>	<u>topic-chaining</u>
Jenny: Yesterday my mom and my whole family went with me to a party and it was a Thanksgiving party where and we	Deena: I went to the beach Sunday and to McDonald's and to the park and I got this for my birthday My mother bought it for me and I had two dollars for my birthday and I put it in here and I went to where my friend named GiGi I went over to my grandmother's house with her and she was on my back and I and we was walking around by my house and she was heavy She was in the sixth or seventh grade
St.T: [mm Jenny: my mom we had to get dress up as Pilgrims and my mom made me this hat for a Pilgrim	T: OK I'm going to stop you. I want you to talk about things that are really really very important.
St.T: Oh great.	

Whereas Jenny receives a confirming "Oh great", Deena is cut off with criticism for what the teacher refers to as her "filibusters".

These studies of discourse interference assume that such interference will affect the children's success in school. Interestingly, in this particular case Deena is one of the best readers in the class. Michaels and Cook-Gumperz comment:

Furthermore, while Deena's reading, math, and spelling skills have all shown marked improvement over the course of the school year, her sharing discourse style has remained unchanged. And so, while sharing can be seen as an oral preparation for literacy, this has, as yet, had no influence on her progress in reading. However, Deena's topic-chaining oral discourse style may, in time, greatly interfere with her ability to produce literate sounding descriptive prose (p. 12).

Speech act: requests for clarification

Some research on classroom language has selected a particular speech act as the focus of analysis. A set of utterances is selected from a set of protocols as tokens of an utterance type defined by its function; and the tokens are then analyzed for formal variants, and for the frequency and pattern of their distribution. A large study of children's functional language in nursery, kindergarten and the primary grades in a Washington, D.C. private school conducted at the Center for Applied Linguistics included an analysis of requests for clarification (Christian & Tripp, 1978). Here are two Kindergarten examples, one asked of the teacher, the second of another child:

T: All my other students have always called it the Ed and Edna game.

Ashley: The what?

T: The Ed and Edna game (p.14).

Joyce: You get to put the chapstick on.

Mary: On what?

Joyce: On her lips (p.16).

Requests for clarification were selected both because of their presumed importance in education, and because of the existing sociolinguistic research of Garvey (1977) and others to draw on.

A corpus of videotapes was selected such that each of 40 children, eight at each grade level (nursery through third grade), could be followed for two hours, divided evenly between large group and small group activities. All instances of requests for clarification on these tapes were then analyzed. The researchers were interested in whether the use of these requests differentiated between those children whom the teacher had identified as more vs. less competent language users; and in the distribution of these requests by addressee and group size. Briefly, the use of these requests did not differentiate the children according to the teacher's ratings, but there was a strong effect of addressee and situation. The percentage addressed to teachers dropped from 69% in the nursery to only 6% in grade 3; and only 11% of all the requests were asked in large group settings. The researchers relate this situational difference in frequency to the kind of lesson structure described by Mehan:

Most large group situations, especially in classrooms, involve certain rules about turns of speaking to maintain order. In order to issue a request for clarification, it is often the case that one of these rules that maintain order would need to be violated so that the request can be appropriately timed. For example, it would be virtually impossible to observe a rule about raising your hand to be given a turn and then to make one of these requests. This relationship between requesting clarification and situation in terms of group size then follows naturally from features of the behaviors associated with each.

Thus an analysis that starts with speech acts leads to questions about the structure of the speech event in which they occur in order to explain patterns of use.

Discourse at Home

What do we know about speech situations and speech events in the child's preschool life that are like those at school--like in the sense that there is a context, a sequential structure, that creates slots of certain shapes in which the child comes to speak. In a general sense, all conversation fits this description, but the closest similarity between classroom and home seems to be the language games with infants that Bruner has analysed: social exchange games such as peekaboo (Ratner & Bruner, 1978) and picture-book reading (Ninio & Bruner, 1978). A closer look at those games relates them, and by extension more of early mother-child conversation as it is described in the research literature, to Vygotsky's concept of the "zone of proximal development", and suggests what may be essential qualities of the most powerful learning environments. Now to take the steps in that argument one at a time.

Happily, we all know how to play peekaboo. Ratner and Bruner's description reminds us how this familiar activity exemplifies four special features of these early games: a restricted format, clear and repetitive structure, positions for appropriate vocalizations, and reversible role relationships (1978, p. 391). Here is a representative peekaboo game between Richard and his mother.

In the beginning [6-11 mos] agency was almost always handled by the mother. She always did the hiding, about half the time covering herself. By 1;2, the pattern was transformed: nine out of ten times, it was the CHILD who did the hiding, and inevitably he hid himself. In reappearance, again the mother initiated most of the time in the early months, invariably appearing with a smile and hello!

As he moved from the role of spectator in the first phase to that of actor in the second, his vocalizations changed. . . . while in the earlier period his vocalizations were excited babbles, the later period was marked by lexemic-like PCF [phonetically consistent form] sounds, principally directed to the partner in the game, including (at 1;3.21), peeboo, da, hi da, dere, ahh.

By 1;3 and after, Richard and his mother played peekaboo rarely. But object hiding continued. The last appearances of peekaboo surfaced six months later (1;9.14), after Richard had acquired a fair amount of language. But interestingly enough, this time it was a solo, between Richard and objects HE had hidden and then caused to reappear. . . . He could also [now]

manage interchangeable roles. The following month, for example, HE asked Where Mummy when she hid and said hello when she reappeared--roles hitherto controlled by his mother only (Ratner & Bruner, 1978, pp. 398,400).

If peekaboo is considered a speech situation, structured around the physical activities of hiding and finding, picture-book reading is an equally ritualized speech event where talk is the primary purpose--not just phatic communication and greetings as in peekaboo, but labelling for which the book provides clear and present referents for the talk. In the family described by Ninio and Bruner (presumably the same "Richard" as in the peekaboo game), picture book reading early in the child's second year has a four-part event structure:

- an attentive vocative, such as Look;
 - a query, such as What's that?
 - a label, such as It's an X;
 - a feedback utterance, such as Yes, that's an X (if the child has provided the label)
- (paraphrased from Ninio & Bruner, 1978, p. 6)

As with peekaboo, as Richard's development proceeds, he takes over more and more of the script.

The similarity between the basic picture-book reading structure and Mehan's analysis of classroom lessons is striking. With the mother's attentional vocative replacing the teacher's turn-allocation procedures, the remaining parts of the book-reading fit exactly the initiation-reply sequence of the lessons. Moreover, the initiations in both events are questions to which the adult asker knows the answer. In studies of the antecedents of school success, many people have found a high correlation between being read to and succeeding in school, and have remarked on the special linguistic features of written text, and of the conversation interpolated into the text-reading scene (e.g. Chomsky, 1972; Snow, 1977). Ninio and Bruner's analysis suggests that picture-book reading may, in addition to its substantive contribution, be preparation for participation in the discourse structure of classroom lessons several years later.

There can even be an analogue to interference in this early learning. As Ninio and Bruner point out, picture-book reading has a different structure if the mother reads a nursery rhyme and leaves a slot for the child to fill in at the end of each line. A graduate student at Harvard, Sharon Haselkorn, reported interference between the patterns of mother and researcher that she encountered over book-reading at this early age. Sharon is used to playing the What's that game, but one of her young subjects had learned the fill-in-the-blank game, and they had a very hard time getting their speech event together (personal communication, 1978).

But there are important differences between these home and school events as well as similarities. Very different from the classroom is the change in these home language games as the child develops. While the mother can and does enact the entire script herself in the beginning, the child gradually assumes a more and more active role. Variations in the games over time are critical: the adult so structures the game that the child can be a successful participant from the beginning; then as the child's competence grows, the game changes so that there is always something new to be learned and tried out, including taking over what had been the mother's role. When variations are no longer interesting, the game is abandoned and replaced. In Bruner's words, "the only way in which the child can be kept communicating in a format is by altering or varying it--he or his mother taking the lead" (1978, p. 254).

Bruner's term scaffold has become a common caption for the adult's role in these games, but it is a good name only if one remembers that this is a very special kind of scaffold that self-destructs gradually as the need lessens, and is then replaced by a new structure for a more elaborate construction. Another metaphor for the same relationship is what musicians know as "music-minus-one" or "add-a-part" records: chamber music records, each with a missing part to be supplied by the novice, in a graduated series of difficulty. Neither scaffolds nor add-a-part records are as dynamic and interactional as the language games, but if these limitations are kept in mind, they may be helpful metaphors.

The language games described by Bruner et al. are only one set of examples--admittedly in concentrated, exaggerated, ritualized form--of a more widespread occurrence of forms of adult support in talk with young children. In selecting these forms for special attention here, I am not talking about their possible assistance to the child's acquisition of syntax. (See Ervin-Tripp's 1977 keynote address on that topic.) My concern rather is with the child's acquisition of particular conversational patterns and discourse forms, which I assume to be more dependent than syntax on particular forms of help.

First, there is Snow's (1977) description of the development of conversation between mothers and their 3-18 month-old babies. She describes how hard the mothers work to maintain a conversation despite the inadequacies of their conversational partners. At first they accept burps, yawns, and coughs as well as laughs and coos--but not arm-waving or head movements--as the baby's turn. They fill in for the babies by asking and answering their own questions, and by phrasing questions so that a minimal response can be treated as a reply. Then by seven months the babies become considerably more active partners, and the mothers no longer accept all the baby's vocalizations, only vocalic or consonantal babbles. As the mother raises the ante, the child's development proceeds.

From later adult-child talk, there are reports of possible antecedents of one discourse form, the narrative of personal experience that Michaels and Cook-Gumperz heard during first-grade sharing time--two from

the 1977 Research Forum. Sachs analyzed the first attempts to talk about absent objects and persons by her own daughter, Naomi. In the period she studied, starting with 17 months, conversation about the "there and then" was not always successful. Sachs reports that one helpful strategy was a conversational routine, for example about the absent parent:

These conversations were initially very primitive as conversations go, but over time the child progressed from a small set of learned responses [Daddy at the lab?] to using appropriate, variable speech content. As other types of displaced reference appeared in the parent-child discourse, they also tended to make their first appearance in conversational routines (Sachs, 1977, p. 58).

At the same Forum, Stoel-Gammon and Cabral described the development of the "reportative function" in Brazilian children 20-24 months old. They found that attempts to tell narratives of past experience usually occurred in a dialogue in which the adult asked questions that acted as prompts. For example, when a 20-month-old child reported Fell ground, the adult prompted more information by asking how and where it happened and "Who pushed you down." These early reports were most successful when the adult had been with the child at the event and later asked the child to relate what had happened to some third person. In their words, "It is possible that elicitation of the reportative function in this manner serves as a kind of training by which the adult indicates to the child which elements of an event are to be encoded" (1977, p. 66).

The most complete description is the Scollons' (1979) account of the antecedents of their daughter Rachel's ability to tell the kind of narrative that they, like Michaels and Cook-Gumperz, believe to be related to later acquisition of literacy in school. A few days before her third birthday, Rachel silently "wrote" a story in circular scribbles, and then "read" it to her parents. Here's the story, with division into lines to indicate pauses, dots (.) to indicate breaths, and double slashes (//) to indicate an intonation contour of high rise and then fall, which serves to close an information unit and yet communicate an intention to continue reading.

There was a b-
girl
she
went out to get snow//
.
she
she made a hole//
.
she
.
she went back

she cried//
 she went back in tell m-
 her
 her Mom to get
 tel--old her Mom, to
 give her apple//
 so she gived her apple///
 .
 she got
 .
 she went out again
 got sn-
 some more snow?// (R. & S.B.K. Scollon, 1979, pp. 12-13).

While most discussions of preparations for literacy focus on what young children learn from being read to and being around adults and older children who read and write frequently and happily, the Scollons acknowledge such influences and go on to suggest how Rachel received preparation for two characteristics of what they call "essayist literacy" through adult-child interaction as well.

One characteristic is the provision of new information in each utterance. The Scollons believe that this provision is taught by the young child's caregiver in "vertical constructions."

The child says something. The mother asks about it and the child says something further. The first can be seen as a topic statement, the mother's comment as a request for a comment and the child's answer as giving that comment.

As the child develops she begins to take over both roles. That is, Brenda [the subject of R. Scollon's previous study, 1976] soon began to say both the topic and the comment. As soon as these became prosodically linked as a single utterance the whole process shifted up a level. The whole topic-comment pair was taken as a given and the interlocutor sought another comment. An example of one of these more elaborate pairs is as follows:

Brenda: Tape recorder
 Use it
 Use it
 Int.: Use it for what?
 Brenda: Talk
 corder talk
 Brenda talk

Two things are important for this discussion. One is that this development is based on interaction with other speakers. The other is that it involves the progressive incorporation

within a single tone group of greater amounts of new information (R. & S.B.K. Scollon, 1979, pp. 43-44).

R. Scollon first described "vertical constructions" in his study of Brenda (1976). At that time he believed them to provide assistance to the child's development of syntax. Because of intervening evidence from other researchers that children develop syntax in the absence of this particular form of interaction, the Scollons now believe that "The vertical construction is a discourse process as is the information structuring of essayist literacy. We now see the former as an important means of teaching the latter" (1979, p. 45).

Whereas such vertical constructions are excellent examples of interactional scaffolds, assistance to Rachel's development of the other characteristic of literacy comes through the provision of adult models. This characteristic is what the Scollons call "the fictionalization of the self": the ability to distance oneself from participation in an event and describe it to someone else. They believe that caregivers who are literate themselves coach young children in such narrative accounting by speaking for them before they can speak for themselves, either telling a child a story about herself after it has happened: "Once upon a time there was a little girl named Rachel. . ."; or giving a running account of an activity as it is taking place: "See look, we throw it up and we catch it. . . ." With these kinds of help, Rachel constructs--with self-corrections from "Mom" to "her Mom" and from "tell" to "told"--a narrative in the third person about an incident in her own life a few days before.

It is important to recognize that all the above examples of help for discourse learning at home are from families of highly educated parents. Unfortunately, at least in part for understandable reasons of access, demographic characteristics of the children whose language development has been studied in the past 20 years are much more limited than characteristics of the children in current research on language in the classroom. Consider the research reports in Talking to Children (Snow & Ferguson, 1977). The range of non-English language included in the book is admirable. But within the English-speaking world of the U.S. and Australia, all of the identified subjects are white, middle-class and college educated. Children and their families from other groups are still nearly invisible in our child language research. (Adam and Sarah were exceptions in Brown's (1973) study: Adam was Black, the child of a minister; Sarah's father was a clerk in a store and neither of her parents had gone beyond high school.)

As the final version of this paper was being written, I read a dissertation just finished by one of Lois Bloom's students: An important and often poignant analysis by Peggy Miller of the language development of three white children from a working-class community in South Baltimore. Only one mother was a high school graduate; the other two had dropped out in eighth grade, and one could neither read nor write. A major focus of

Miller's analysis is on the kinds of "direct instruction" that these three mothers provided. Her report shows both similarities and differences to the privileged families we know more about.

One similarity is the teaching of labels, sometimes while looking at books. All three mothers made requests for names, with one of these forms:

Say X and what-question, alone or in combination;
That X (or There X, Look X, etc.) and what-question, alone or
 in combination (Miller, 1979, p. 142)

For one child and her mother, Amy and Marlene, there was enough data to show how development proceeded:

Over the first six samples [when Amy was 18-22 mos.], the form of Marlene's requests for names changed from predominantly Say X to predominantly what-questions. During this time Amy consistently achieved a high level of correct naming even though her mother offered fewer and fewer names for imitation. By sample VI Amy not only responded correctly, with minimal help, to her mother's what-questions, but addressed what-questions to her mother (Miller, 1979, p. 142).

As Miller points out, her description of Amy starts about where Ninio and Bruner's Richard stopped. After the children can answer wh-question without help, they then reverse the roles and ask the questions themselves.

One of the differences is the way in which the mothers teach appropriate compliance and assertiveness in what they know to be a harsh world. One form for this instruction is giving the children lines to say to a third person, sometimes in play situations with dolls. For example, when five-year-old Kris took a doll from Amy, "Marlene helped Amy to reassert her claim by giving her the appropriate lines to say:

Amy	Marlene
	Oh, what did she [Kris] do?
my baby	
keep off	Tell her [Kris], say 'keep off.'
keep off	
you hurt it	Say 'you hurt it'
... (Miller, 1979, p. 115).	

As Miller points out, teaching children by giving them lines to say is also a common strategy among the Kaluli in New Guinea, except that instead of Say X, the order is reversed: the appropriate message to third person first, followed by a:la:ma--"say like this" (Hood & Schieffelin, 1978; Schieffelin, 1979).

Miller's work suggests what we will find as our sample of families expands: not that the same kinds of interactional scaffolds and mature models will be provided in all subcultural groups, but rather that functional equivalents of those described here will occur for those discourse patterns considered important in the child's family and culture. In fact, the existence of such assistance to the young child can be taken as one kind of evidence for that importance. Where something is being taught, something believed to be important is there to be learned.

Vygotsky's Zone of Proximal Development

Vygotsky discusses his concept of the zone of proximal, or potential, development, in both Thought and Language (1972) and Mind in Society (1978):

It is the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with peers (1978, p.86).

Soviet psychologists apply the concept both to diagnosis and to instruction. In diagnosis, measurement of the width of the zone--that is, of how much children can do with help that they can not do alone, is used to differentiate learning disabled children from the mentally retarded; in instruction, it is basic to a philosophy of education that learning must lead development:

What the child can do in co-operation today he can do alone tomorrow. Therefore the only good kind of instruction is that which marches ahead of development and leads it; it must be aimed not so much at the ripe as at the ripening function (1972, p. 104).

To make the concept of zone of proximal development more concrete, consider an actual test developed and used at the Institute of Defectology of the National Academy of Pedagogical Sciences in Moscow by psychologists working in the Vygotsky tradition.³ The test begins as a version of a pattern matching test item commonly included in tests of intelligence. You are given pieces of a geometric puzzle to assemble and a picture of how the completed puzzle should look. The picture gives only the external outline of the finished puzzle and is smaller in scale than the pieces themselves. If you can complete the puzzle, fine. If not, you are offered, one by one, a series of "graduated aids". First, the picture is changed to the same scale as the pieces. Then, if further help is needed, you are given a second picture, again in the right scale, but now with the internal divisions of the puzzle shown. Finally, if still more help is needed, you can assemble the puzzle pieces right on top of the picture. When that puzzle is completed, you will be given another puzzle, for which the same series of graduated aids are available. The second puzzle is harder in having more, and more difficult, pieces, but at least one part of the new puzzle can be completed by combining pieces just as they were combined in the previous puzzle. Thus there is the

possibility of transfer of some of the actual construction, as well as a chance to complete subsequent puzzles with fewer of the graduated aids. There is a critical difference between this puzzle and the kind of testing and learning environments it exemplifies on the one hand, and our usual testing situation on the other: instead of presenting children with a standardized task and noting whether they succeed or fail, the adult presents the task, offering simplifying aids in a principled way until the child succeeds, and then omits the aids as they are no longer needed.

This puzzle is a completely non-verbal item, but the concept of a zone within which a child can accomplish with help what he can later accomplish alone applies to aspects of language learning as well. Vygotsky's own language application is to the child's internalization of interpersonal speech as an internal self-regulatory function, or in Wertsch's (1978) terms, adult-child interaction as one of the antecedents of the child's independent metacognition. (According to Wertsch, in press, the correct translation of Vygotsky's monograph, Myshlenie i Rech is Thought and Speech.) But the concept can also apply to the child's acquisition of patterns of conversation and discourse. If we substitute "speaking" for "problem-solving" in Vygotsky's definition, then the zone of proximal development for speaking

is the distance between the actual developmental level as determined by independent speaking and the level of potential development as determined through speaking under adult guidance or in collaboration with peers.

"Speaking under adult guidance" is just what the children were doing in all the above examples of discourse development in the home.

In stopping an analysis of the zone of proximal development at this point, I am knowingly being vague about exactly what kind of help has what kind of consequences for what kind of learning, and avoiding distinctions that I don't yet understand enough to clarify. Let me note them here, as a place holder for analyses that need to be done. As Brown and French (n.d.) point out in their more extended discussion of the application of the concept to testing, the provision of graduated aids depends on an analysis of the task and the dimensions along which it can be simplified. Wertsch (in press) is doing such an analysis of the directives with which mothers talk young children through a puzzle matching task. In particular, it is important to understand the effect of presenting to the child a mature version of the task first, and then simplifications. See related discussions by Hickman and Wertsch (Hickman & Wertsch, 1978; Wertsch, 1979; Wertsch, in press) about the sequence of implicit to more explicit directives; and in Pascual-Leone et al. (1978) on "graded learning loops" that are sequences from hard to easy within segments, and then easy to hard across segments, exactly as with the Vygotsky puzzles. (I am grateful to Paul Ammon for calling my attention to this related discussion.)

Finally, how do these distinctions apply not to problem-solving but to speaking, to aspects of discourse development with which we are concerned here? We need more analyses of assistance to children's learning of discourse--of the kinds of scaffolds and models that children are provided--not only to understand more fully what happens at home, but to find ways to extend that learning more effectively at school.

Back in the Classroom

What kind of assistance to discourse development do children get in school? It's my impression from both personal experience as a teacher and from the research literature that children get help in answering teacher questions; more rarely, they get help in participating in the discourse structure typical of classroom lessons; but there is little or no evidence of assistance to other discourse forms. More about each of these impressions in turn.

Help with Particular Questions

It's important to distinguish between help that somehow gets a child to produce the right answer, and help from which the child might learn how to answer similar questions in the future. Only the latter is of educational interest. All teachers sometimes have to get the answer said somehow in order to keep the lesson going for the sake of social order, what Mehan empathetically calls "getting through" (1979, pp. 111-114); but one cannot defend the value of such sequences to the individual child. If, for example, when a child cannot read the word bus on a word card, the teacher prompts the answer with the question, "What do you ride to school on?" the child may correctly now say "bus". But that is not a prompt that the child could give to herself the next time, because the prompt depends on the very knowledge of the word that it is supposed to cue. We are looking for assistance that at least has the possibility of helping children learn how to answer, even if we lack evidence that it in fact does.

Here are two examples from reading lessons with first-grade children analysed by Mehan (1979). From one theoretical perspective, these are excellent examples of "negotiated interactions" or "interactional accomplishments": the children get the teacher to give them the clues they need to find the answer. (I am grateful to Peg Griffin for this observation.) But, speaking for the teacher, I want to suggest another non-contradictory perspective: that the teacher was providing implicit information about how to answer such questions--information that is applicable, and hopefully eventually transferred, beyond the particular instance.

Examples of Question Sequences
(From Mehan, 1979)

- (1) T. OK, what's the name of this story? (points to title of story)
 Ss. (no response)
 T. Who remembers, what's the name, what's the story about?
 Ss. (no response)
 T. Is it about taking a bath?
 Ss. No.
 T. Is is about the sunshine?
 Ss. No.
 T. Edward, what's it about?
 Edward. The map.
 T. The map. That's right. This says 'the map'.
- (2) T. What else, what else, Edward, what do you think we could put there that starts with an M?
 Edward. (No answer)
 T. Somebody in your family, Edward
 ...
 Audrey. I know. I know.
 T. What?
 Audrey. Man
 T. Man, good for you, Audrey.

In the first example, the implicit message is about the meaning of the question "What's the story about?" The form of simplification here is from the initial wh-question to yes/no alternatives, a sequence common in adult talk to children (J.B. Gleason, personal communication). The specific alternatives are deliberately absurd members of the category of things that could answer that question. In the second example, the general wh-question about "What else . . . starts with M?" is followed by a hint that when you want to think of a word, a useful heuristic is to narrow the field to a small set you can run through in your mind.

Blank (1973) gives a detailed analysis of how teachers can respond to children's wrong answers. Wertsch believes (personal communication), as do I, that teachers do more of such metacognitive teaching while working with individual children at their seats than in group lessons. Such tutorial dialogues can be recorded easily with wireless microphones, but detailed analysis might still be difficult unless a video-camera captured the work that is the referent for the talk. And of course we would still lack evidence that such teaching actually helps.

Help with Participation in Lessons

There are various reasons why help with particular questions may not be enough, why children may need help with known-answer questions in general and the lesson structure in which they are embedded. They may be newcomers to school; they may need to get used to the particular

lessons enacted in particular classrooms; they may come from a cultural background that does not include the kind of practice in labelling that some children get in picture-book-reading events. Here's one example of successful learning in each case.

One description of how nursery school teachers in England inducted three-year-old children into the rules of classroom discourse sounds strikingly like Snow's conversation between mothers and babies reported above. Willes began her observations with the youngest children because she assumed that "the rules of classroom discourse, like those of any other game, have to be learnt by those to whom they are new", and that it would be some time before the talk between teacher and these very young children began "to resemble classroom discourse and to be analysable as such" (n.d. p. 177) according to the Sinclair and Coulthard (1975) scheme. She was in for a surprise.

Once the children had 'settled' teachers consistently spoke as if children knew how to behave and respond as pupils. If they did not get an expected and acceptable response, they would interpret a look, a gesture, or silence as if it were at least an attempted response, and evaluate it. If the response were noise, they would impose on it a prompt, or even an answer (n.d., p. 185; emphases in the original).

With such help, Willes found that the kind of sociolinguistic competence required of a pupil is learned very rapidly, sometimes in the course of a single session.

Mehan (1979) also observed growth over time in lesson participation. Since the children he observed were in primary grades and had all been in school before, this is presumably due to growing familiarity with the patterns of their particular teacher. Without any discernible help, as the year went on, the children became more effective in responding appropriately (in timing and form) as well as correctly (in content) to the teacher's questions. They were less frequently negatively sanctioned for saying the wrong thing at the wrong time; and they became more and more successful in initiating sequences of interactions themselves. Less than 10% of their attempted initiations became incorporated into lesson topics in the fall, but this increased to nearly 50% by the winter. That is, the children became interactionally more competent in tacitly understanding the structure of the lessons, and functioning within that structure for their purposes as well as the teacher's. Since none of the participants, not even the teacher, knew this discourse structure explicitly, the children had to learn it as they learn syntax, without explicit tuition. As with syntax, they learned more than anyone could have explicitly taught. Unfortunately, we don't yet have a principled distinction between aspects of discourse that children can learn as they learn syntax, out of awareness, and aspects that benefit from more direct help.

Cultural differences seem to matter more. Despite considerable research attention to cultural differences in patterns of interaction between home and school, there are few descriptions of what can be called "second discourse teaching". More attention has been given by researchers to how the teacher can adapt to children's preferred ways of interacting than to how teachers can help children adapt to the school, even though Philips (1972) presented both alternatives in the concluding section of her influential paper. One important exception is Heath's (in press) work with teachers in a Black community in southeast U.S. that she calls Trackton. When the teachers complained that children did not participate in lessons, Heath helped them understand what she had learned from five years of ethnographic field work in the Trackton community. For example, the children were not used to known-answer questions about the labels and attributes of objects and events; as one third grade boy complained, "Ain't nobody can talk about things being about themselves". She then worked with the teachers to try out changes in their classrooms. Because Heath's work is such an imaginative and rare example of assistance to children's discourse development in school, I quote at some length:

For some portions of the curriculum, teachers adapted some teaching materials and techniques in accordance with what they had learned about questions in Trackton. For example, in early units on social studies, which taught about "our community," teachers began to use photographs of sections of different local communities, public buildings of the town, and scenes from the nearby countryside. Teachers then asked not for the identification of specific objects or attributes of the objects in these photographs, but questions such as:

What's happening here?
Have you ever been here?
Tell me what you did when you were there.
What's this like? (pointing to a scene, or item in a scene)

Responses of children were far different than those given in usual social studies lessons. Trackton children talked, actively and aggressively became involved in the lesson, and offered useful information about their past experiences. For specific lessons, responses of children were taped; after class, teachers then added to the tapes specific questions and statements identifying objects, attributes, etc. Answers to these questions were provided by children adept at responding to these types of questions. Class members then used these tapes in learning centers. Trackton students were particularly drawn to these, presumably because they could hear themselves in responses similar in type to those used in their own community. In addition, they benefitted from hearing the kinds of questions and answers teachers used when talking about things. On the tapes, they heard appropriate classroom discourse strategies. Learning these strategies from tapes

was less threatening than acquiring them in actual classroom activities where the facility of other students with recall questions enabled them to dominate teacher-student interactions. Gradually, teachers asked specific Trackton students to work with them in preparing recall questions and answers to add to the tapes. Trackton students then began to hear themselves in successful classroom responses to questions such as "What is that?" "What kind of community helper works there?"

In addition to using the tapes, teachers openly discussed different types of questions with students, and the class talked about the kinds of answers called for by certain questions. For example, who, when, and what questions could often be answered orally by single words; other kinds of questions were often answered with many words which made up sentences and paragraphs when put into writing. (Heath, in press)

How to Help Children Accomplish Other Discourse Forms

Remember that one of the special characteristics of both the early language games in the home and the Vygotsky puzzles is that the games and puzzles themselves get more complicated as development proceeds. A major contrast between discourse development at home and at school, at least as described in our current research, is that we have no record of such change in the school. We have no reports yet of how school language games themselves become more complex as the school years go on. Ideally, it seems to me, one would hope to find opportunities for children to practise a growing range of discourse functions--explaining, narrating, instructing, etc.--first in situations in which a scaffold or model of some appropriate kind is available, and then gradually with less and less help. Such opportunities should be especially important for practice in the various kinds of extended monologues that children are expected to write in assigned themes. Imagine, for example, the kind of help Heath's teachers gave for question-answering also available for the children telling narratives in the Berkeley classroom observed by Michaels and Cook-Gumperz.

In the San Diego classroom described by Mehan, we created one special speech situation that we called an instructional chain (IC), and I want to describe it briefly here as an example of the possible benefits of non-lesson discourse. Briefly, in each IC the teacher taught a lesson to one child who then taught the same lesson to one or more peers. Leola, a Black third grader, was asked to learn and then teach a language arts task. Here are the first three items on her worksheet in completed form.

- | | | | |
|--------|----------------|----------------|------------|
| 1. new | 1. Y o l o d u | 2. t y o l d | 3. m o n e |
| 2. no | | | |
| 3. on | <u>Y o u</u> | <u>t o l d</u> | <u>m e</u> |

The next page gives a skeletal version, minus repetitions, corrections, etc.,

Teacher's Instructions to Leola

Item 1		Item 2	
Teacher	Leola	Teacher	Leola
OK, now number one here says <u>new</u> .		OK, now number 2 here says -	No.
What's the opposite of <u>new</u> ?	Old	<u>No</u> . What's the opposite of <u>no</u> ?	Yes.
<u>Old</u> . How would you spell <u>old</u> ?	O-L-D	OK, how do you spell <u>yes</u> ?	Y-E-S
OK, in the letters that are on this paper, cross out the letters you just used for spelling <u>old</u> .	(L. does it)	All right, now what are you going -	(L. crosses out the letters Y-E-S)
Good. What word is left?	Y-O-U		Told
What does that spell?	You		
OK, and down here you'll write <u>you</u> .			

Leola's Versions of the Instructions

in rehearsal to the teacher:

- L. Spell these letters, and then put out that letter, and then have another letter left.
- (later. after T. goes over the instructions again)
- L. To do the opposite of this. You got to write old. I'm gonna tell 'em: you gotta write old, cross old out and you have another letter left.

in actual instruction of her peers:

- (1) [Goes to get pencils, then returns to work desk and sits down] It is hard. . . . You gotta write- what's the opposite of "new" is "old".
- So you got--so you gotta cross O-L and D, and you have a letter left, and you--you put the letter left in these words.
- (2) You cross it--you-see, you got to do the opposite of "n-no" i--"no" is "yes" on number two. "No"--"no" is "yes", so you gotta write Y-E-S. And you have a "told" left, so you write T-O-L-D. See, d-do the op--the op--the opposite of ah--uh--"off" is "on", so you gotta cross, on number three, you gotta cross "on" off. O-N. And you--it is "me" left, M-E.
- (3)

of the teacher's directions as she talked Leola through the first two items on the task, and the full transcript of Leola's subsequent directions first back to the teacher as a rehearsal, and then in actual instruction of her peers. Note in passing that the teacher's questions serve to talk Leola through the task until she can do it herself. That such aid can indeed be graduated is shown by a comparison of the teacher's instructions for the first and second items. The first three parts are repeated, but then a much vaguer and incomplete question "Now what are you going to-" is sufficient, and Leola takes off on her own.

The important aspect of this IC for thinking about discourse development at school is the development of articulateness and precision in Leola's instructions from her first rehearsal to the teacher:

Spell these letters, and then put out that letter, and then have another letter left.

to the most elaborated version in item 3. Here it is without the hesitations and self-repairs:

The opposite of off is on, so on number 3, you gotta cross on off. O-N. And it is me left, M-E.

This is a good example of what Wertsch, following the Soviet psychologists, calls microgenesis--that is, development within an observable time period, and it is a kind of development that Leola seemed to need. In the nine lessons analyzed by Mehan, some three hours of talk in all, she spoke four times, and only twice more than one word. This is not to say that she was in any way non-verbal; but it is to suggest that she could benefit from challenges to talk about academic topics, not just in response to questions. Another competency stimulated by taking on the role of tutor for their peers was the crisp pronunciation of English consonants by a strong Black dialect speaker and a Spanish-dominant bilingual child who were both asked to present sentences or words to their tutees in other language arts tasks. See Cazden et al., 1979, for a further discussion of the ICs. (And see Barnes & Todd, 1977 for a very different kind of non-lesson discourse: small group discussions among 13-year olds.)

There are reasons why non-lesson discourse on educational topics may actually be hard to find. When Donald Graves looked at the state of writing in schools across the country, he was told that sales of ditto paper for short answers is soaring, while sales of lined paper for more extended exposition is down (personal communication). That's a non-obtrusive indicator of severe pressures, accentuated by the back-to-basics movement, that make it harder and harder for teachers to justify school time for all forms of productive expression--all the transformations of experiences and ideas into maps and paintings as well as words.

But before we put all the blame for our limited vision on the schools, we should be sure that some of the limitations aren't in our ways of looking.

I started with a quotation from Frake because of the importance of the "classroom as culture" metaphor in current classroom language research. Like any metaphor, this one highlights some features and leaves others in shadow. To assume that a classroom is like a culture highlights the process of inducting new members, and so most current studies take place in the primary grades. The task of the researcher who enters the classroom as an observer, like the task of the child who enters as a student, is to learn what's necessary for full participation. With this metaphor, change is expected only in those who are becoming members, not in the culture itself.

During the discussion period on this paper, Beatriz Lavandera commented that classrooms are different from cultures not only in the dimension of change, but also in the absence of natives. Classrooms as settings for the process of "pidginization" might be another useful metaphor that would illuminate new aspects of classroom discourse (as it has illuminated aspects of second language acquisition in Schumann, 1978).

At least classrooms are, or should be, very special cultures--a community of people who are themselves changing, and whose change the environment is specifically designed to support. That's why still another metaphor, peekaboo as an instructional model, is so important for both teachers and researchers to keep in mind.

Footnotes

1. This paper was written while the author was a Fellow at the Center for Advanced Study in the Behavioral Sciences, and support from the National Endowment for the Humanities and the Spencer Foundation is gratefully acknowledged.
2. I was the classroom teacher in these lessons, but my own personal involvement is not relevant to this discussion. I have discussed my experience as teacher in Cazden, 1976, 1979, and in press; and reported analyses of the language of children in that classroom in Cazden, 1975, Cazden et al., 1979 and Carrasco et al., in press. Later in this paper I will comment briefly on some of my own utterances as teacher. Up to now, I have left such comments to others, but the audience at this Forum and the readers of these Reports should not find such self-analyses unusual. If child-language-researcher parents can analyze their interactions with their own children, why not a teacher too?
3. These tests were observed in Moscow, Dec. 1978, while I was there with a group of psychologists as part of agreements between the Academies of Science of our two countries. I am most grateful to V.I. Lubovsky and T.V. Rozanova of the Institute of Defectology of the Academy of Pedagogical Science for their time and hospitality. See Brown & French (n.d.) for Ann Brown's comments on this same visit.

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